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**Effect of the Mode of Admission on the Performance of NCE  
Biology Students in Osun State College of Education, Ila  
Orangun**

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**Abstract**

*The effect of the mode of admission on the level of performance of students in NCE Biology was investigated in this study. The study made use of seven years records between 1997 and 2004 when students could be admitted through preliminary studies or by direct entry through JAMB if qualified. The results of the students were analyzed according to their respective mode of admission. Data collected were analyzed with  $t$ ,  $f$ , and Chi square tests as applicable. It was observed that student intake continue to increase from year to year with more females admitted than males within the period under study. Students admitted directly into NCE programme performed significantly better than those that pass through pre-NCE. It was also observed that the mean CGPA reduces as student intake increases. It is recommended that pre-NCE students should be made to write JAMB and Post-JAMB examination to qualify.*

**Key words:** Direct Entry, mode, Pre–NCE, Pre–Male, Pre–Female, Direct Male, Direct Female, Grade Point Average

### **Introduction**

Academic performance of students in institution of higher learning is largely determined by such factors that relate to school environment, home background, economic, political, social and the cultural milieu (Durotolu, 1994). Durotolu (1994) also noted that students' cognitive entry qualification is a reflection of students' intelligence. Intelligence, as a concept, has been viewed from different perspective by different scholars. Uba (1980) viewed intelligence as the versatility of adjustment; while Vernon (1976) thought of intelligence as being determined or influenced by heredity, environment and time. Long (1980) observed that the performance of direct entry students in degree examination in Agriculture was better than those admitted through the preliminary programme. Such disparity in performance was not observed among their counterparts in the faculty of science in the same year. Majasan and Bakare (1974) reported that direct entry students performed better academically than those admitted through preliminary programme.

Sear (1983) in his study observed that there was a relationship between entry qualification and students' overall performance in final degree result. He observed that most of the candidates that were admitted into the university with GCE advance level (A/L), with 12 points or more, had first class or second class upper division while only 24% of those admitted with GCE ordinary level made upper division level.

Jimoh and Durotolu (1991) studied the relationship between the entry qualifications of NCE students with their performance in education courses. They considered WASC/GCE, Grade II and pivotal Grade II as entry certificates; they observed that there was no significant difference in the performance of students admitted into NCE programme through preliminary programme compared to that of direct entry students.

Akubue (1984) studies the predictive validity of four entry qualification into the Teacher Training Colleges (TTC). He considered WASC, S75, and Primary School Leaving Certificate (PSLC) without teaching experience. He observed that those that were admitted with WASC performed significantly better than others at both Federal and State papers examination. Abdullahi (1983) investigated the correlation between JAMB

examination result and first year university examination, observed that JAMB scores in Physics, Chemistry and Economics correlates with university scores in the same subjects. He observed that JAMB scores in Biology and Geography showed no correlation with the scores in the first year university examination.

Many students develop interest in Biology at both the secondary and tertiary levels because it is the least abstract of the three major sciences, that is, Biology, Chemistry and Physics, (Aganga, 1993). An examination of the enrolment in Biology at Senior Secondary School Certificate Examination (SSCE) confirms its relative popularity among other school subjects. Despite this, the performance of students in the West Africa Examination Council (WAEC) SSCE is depressingly poor (Mba and Aliyu, 1995). This has been attributed to the use of ineffective learning strategies and lack of appropriate learning environment under which biology teaching takes place.

Until recently there are two modes of admission into part one of the Nigerian Certificate in Education (NCE) programme in the Colleges of Education. The first is through Joint Admission and Matriculation Board (JAMB) after having satisfied the general requirements for admission and passed the examination set up by the Board. The other is through preliminary class after haven undergone one year programme and passed the examinations conducted by the College.

This work is aimed at establishing an effective mode of admission which will enhance good performance in biology which is one of the core subjects for scientific and technological development. This research work will go a long way to unknot students' bad performance in biology. This study and related studies will afford education agencies and teachers the opportunity of making necessary amendment for improvement of teacher education. This study will also offer educational planners the opportunity of knowing more about other shortcoming and inadequacies which are clogs in the wheels of our educational progress. It will equally suggest solutions to the problem of poor performance that has been facing students and teachers of biology.

### **Procedure**

This study covers biology students of Osun State College of Education, Ila Orangun between the years 2000 and 2004. The results of 1997, 1998 and 1999 part I students were considered to have an insight into previous

performance of those in NCE III between the year 2000 and 2002. The results of these students were examined at the point of entry (part I) and at graduation (part III). For those graduating in the years 1999 and 2000, their part I performances in 1997 and 1998 were investigated. A total of 195 students were examined in this research work. The students were classified according to the mode of admission (through Pre – NCE or PCE examination). Chi-square ( $X^2$ ), t- and F- tests were employed as applicable to compare the performance between the two groups of students under investigation. The two groups include those admitted through preliminary programme and direct entry through Joint Matriculation Examination. There is no control group for the experiment. The two variables used in this study were the students' scores (CGPA) and the mode of admission. Mean and standard deviation of the students' scores in Biology courses at part I and part III were computed. The mean scores of the two admission groups were compared using F- test. Significance was ascertained at 0.05 confidence level. Chi-square test was also used to test for the significance in the observed and expected results of student distribution according to sex.

### **Result and Data Analysis**

The result of student intake into the biology department between 1997 and 2003 is shown in figure 1. The graph shows an ever-increasing intake of students in the years under study. Between 1997 and 2003 the intake increased by more than 600%. It also shows that the ratio of female to male students are always more than double; with the female having the higher ratio. In 1997 it was ratio 1:2.1 and 1:2.7 in 2003.

Figure 1: Students intake into Biology Dept. between 1997 and 2003

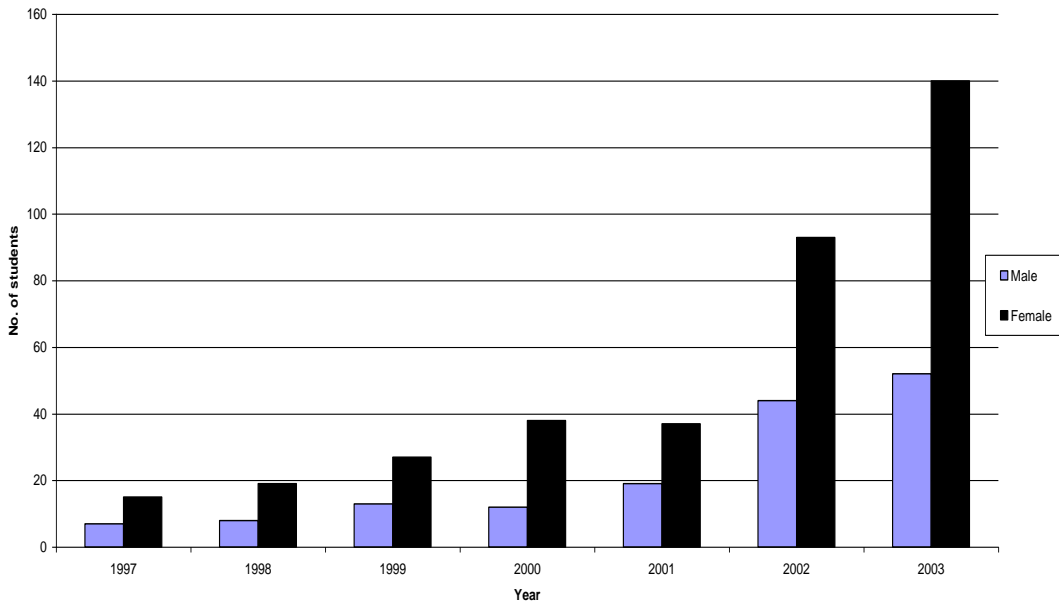


Table 1: Pattern of Admission. (%) between 1997 and 2004

Year	1997	1998	1999	2000	2001	2002	2003
Direct males	13.64	22.22	12.50	18.00	23.21	24.09	17.62
Direct female	13.64	44.44	25.00	50.00	37.50	56.20	45.08
Pre- male	18.18	7.41	20.00	10.00	10.71	8.03	9.33
Pre- female	54.54	25.93	42.50	22.00	28.57	11.68	27.98
Total	100	100	100	100	100	100	100

Table 1 shows the proportion of students admitted into the biology department on the basis of the mode of admission. In 1997, the students admitted through pre – NCE programme formed 72.73% of the total students admitted. Since then the proportion has been reducing and was 19.71% in 2002 and 36.66% in 2003.

Table 2: Mean Cumulative Grade Point Average of Part I students between 1997 and 2004.

	1997	1998	1999	2000	2001	2002	2003
Direct Male	3.67±0.5	2.79±0.24	<sup>a</sup> 1.76±0.37	<sup>a</sup> 1.70±0.93	<sup>b</sup> 1.96±0.58	<sup>b</sup> 1.93±0.47	<sup>b</sup> 1.96±0.53
Direct Female	3.42±1.00	<sup>d</sup> 2.54±0.62	2.90±0.30	<sup>a</sup> 1.76±0.88	<sup>a</sup> 1.80±0.87	<sup>b</sup> 1.87±0.56	<sup>a</sup> 1.66±0.51
Pre-Male	<sup>c</sup> 2.40±0.77	2.16±0.68	<sup>b</sup> 1.85±0.29	2.83±0.64	<sup>b</sup> 1.96±0.65	<sup>d</sup> 2.61±0.44	<sup>c</sup> 2.35±0.51
Pre-female	2.28±0.74	<sup>b</sup> 1.90±0.24	<sup>d</sup> 2.55±0.95	<sup>d</sup> 2.54±0.87	1.57±0.91	<sup>c</sup> 2.44±0.94	1.72±0.52

Values with the same alphabet show no significant difference.

NCCE Grading

- 0.0 – 0.99 = F
- 1.0 – 1.49 = E
- 1.50 – 2.39 = D
- 2.40 – 3.49 = C
- 3.50 – 4.49 = B
- 4.50 – 5.00 = A

The mean CGPA of part I students between 1997 and 2004 were presented in Table 2. The trend shows a decrease in mean CGPA as the number of students admitted increases. The CGPA was highest in 1997 with direct males having 3.67 as the mean, and least in 2001 with the pre-females scoring 1.57 points. It appears the performances of direct male students are the best until 1999 when they lost to the females. The students admitted through pre NCE programme improved their performance and scored better than their direct counterparts between 2002 and 2003.

**Tables 3:** The Mean Cumulative Grade Point Average of part III Students between year 2000 and 2004

Year	2000	2001	2002	2003	2004
Direct Male	3.42±0.50	3.95±0.38	2.38±0.87	1.50±0.71	2.25±0.51
Direct Female	3.25±0.70	2.90±0.37	3.27±0.81	1.67±1.00	2.07±0.43
Pre-male	2.13±0.45	2.40±0.40	1.89±0.51	2.64±0.89	2.21±0.64
Pre-female	1.74±0.49	1.59±0.53	2.78±0.73	2.28±0.98	1.66±0.96

The highest mean CGPA for graduating students was recorded in the year 2001 for direct females (3.95). The least was scored in the same year by the Female Students admitted through preliminary programme. The performance of direct students was higher during the period under consideration except in the year 2003. After this year, there is no difference in the quality of the grades.

**Table 4:** Comparison of CGPA at first year and at graduation

Year	1997 – 2000		1998 – 2001		1999 – 2002		2000 – 2003		2001 – 2004	
	I	III	I	III	I	III	I	III	I	III
Direct male	3.67	3.42	2.79	3.95	1.76	2.38	1.70	1.50	1.96	2.25
Direct female	3.42	3.25	2.54	2.90	2.90	3.27	1.76	1.67	1.80	2.07
Pre-male	2.40	2.13	2.16	2.40	1.85	1.89	2.83	2.64	1.96	2.21
Pre-female	2.28	1.74	1.90	1.59	2.55	2.78	2.54	2.28	1.57	1.66

The comparison of the grades is made in Table 4 at the point is of entry and at graduation. Generally the pattern is one of an improvement in GPA before graduation.

Table 5: Comparison of % successful at first year (part I) and Graduation (Part III)

Year	1997 – 2000		1998 – 2001		1999 – 2002		2000 – 2003		2001 – 2004	
Part	I	III	I	III	I	III	I	III	I	III
Direct male	100	100	100	100	20.00	75.00	33.33	33.33	53.85	84.62
Direct female	66.67	100	91.67	100	80.00	100	32.00	58.33	42.86	65.00
Pre-male	75.00	100	50.00	50.00	25.00	50.00	100	100	50.00	50.00
Pre-female	66.67	50.00	42.86	28.57	64.71	94.44	63.64	72.73	50.00	53.00

Table 5 shows the proportion of the successful candidates in the year of admission and at graduation. A successful candidate is a candidate without a carry-over course and whose CGPA is above 1.00. Percent successful is significantly higher among the direct entry students before the year 2000 when it fell drastically and the proportion of successful candidates increase among preliminary students. This same trend is observed at the year of graduation (Part III). The direct students were having higher proportion until the year 2003 when the proportion reduced drastically. The trend shows an increase in the proportion of successful students before graduation.

Table 6: Average outstanding course of part I students (per unsuccessful student)

	97	1998	1999	2000	2001	2002	2003
Direct male	-	-	3.75	2.20	4.33	4.31	2.67
Direct female	1.00	1.00	3.00	2.76	2.33	2.94	3.11
Pre-male	1.00	4.00	3.50	-	3.33	1.33	2.56
Pre-female	2.00	1.75	2.83	1.75	4.00	1.75	2.82



Table 7: Average outstanding courses of part III

	2000	2001	2002	2003	2004
Direct male	-	-	4.00	4.50	11.67
Direct female	-	-	-	4.30	6.86
Pre-male	-	12.00	12.67	-	7.33
Pre-female	2.33	4.20	1.00	2.33	5.71

Tables 6 and 7 show the average outstanding courses (per unsuccessful student) for parts I and III respectively. The direct students have less cases of carry-over course than those admitted through preliminary programme. Average number of carry-over courses increase as the students are approaching graduation but less number of students has carry-over courses.

### Discussion

The trend observed in the number of intake of students between 1997 and 2003, which was increasing, may be due to more interest the students are showing in teacher education. The observed trend after the year 2000 might not be unconnected with the increase in the fortune of teachers as a result of increase in the salaries of teacher by 1999 and 2000 by the civilian administration of Obasanjo. Between 1999 and 2000, the Federal Government of Nigeria increased the salaries of civil servants twice. Teachers in higher institutions were also given enhance salary scale, which led to many of them riding flashy cars. Positive changes in the teacher fortune might have encouraged more youth to take to teaching profession.

The preponderance of female students admitted, which was more than double the number of the females in most cases may be an indication that there are more females in Nigeria than males or that female embrace teaching profession than males. If the latter is true then the observation supports the popular belief of teaching being a profession for the Female (Olorisade, 2004).

From the observation, more students were admitted through direct programme and the pre – NCE admission remains a supplementary mode of admission. The performance of students as reflected in the CGPA shows that

prior to the year 2000, students admitted through direct entry by examination performed better than their counterpart that have underwent preliminary programme. This is contrary to the observation of Mustapha (1996), Majasan and Bakare (1974) and Jimoh and Durotolu (1991). The difference in this observation and that of the above workers might be as a result of the earlier workers considering some courses in a level rather than all the courses in all the levels as in this study. Mustapha (1996) was able to observe differences in the quality of passes with direct entry students scoring better but he considered biology courses only in part I. There are differences in the performance of students which reflect the mode of admission.

The fact that the performance (CGPA) of direct entry students dropped from the set of 2000 – 2003 may suggest two things: The first is that the increasing number of students might have reduced the efficiency of the teachers, although Oniyide (2004) thought otherwise. The second suggestion is that the concessional admission granted to students to get direct admission without examination might have reduced the quality and lowers the entry behaviour of the students. Although it was observed that there is significant improvement in the students' performance between part I and part III, but the scores at part I play significant role in the end result at part III.

The proportion of successful candidates may have nothing to do with the quality of grades as observed in this study. Whereas the proportion of successful candidates increase for preliminary students in this study from the year 2000; the quality of the success (as a reflection of the CGPA) was not better than those of the direct entry students. When examinations were conducted for all the direct entry students, they were more successful than those admitted by preliminary programme. Success of a student in NCE examinations means absence of carry-over courses but the scores may be very low. Cases of carry-over are more common among students that were admitted through preliminary programme.

It is recommended that direct entry students should be made to undergo the qualifying examination into colleges of education. After the preliminary year in the college, intending candidates for NCE should be made to pass the qualifying examination conducted by JAMB. Since teaching is about to be professionalized, entry qualification requirements into NCE programme should be increased to a minimum of five credits at school certificate level.

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